Is Brexit a Game?

Ralf Michaels 2019-09-29T18:13:44

Some days ago, Emanuel Towfigh made a somewhat provocative suggestion on this blog: Boris Johnson, the British Prime Minister, may not be on the destructive path on which many outside observer see him. His seemingly crazy conduct may in reality be rational. To demonstrate this suggestion, Towfigh used game theory, more specifically the so-called ‚game of chicken': Two players (here the EU and the UK) are rushing towards a mutually deplorable outcome (no-deal Brexit), and the question is who will first, in order to avoid this outcome, cave to the other side's demands. Towfigh's suggestion is that Johnson follows what is elsewhere called the „madman theory": he wants the EU to believe that he is crazy enough to prefer self-destruction over giving in. In that situation, it would be rational for the EU to give in. And Johnson's conduct would then be justified as rational. Case closed.

When game theory was developed in the middle of the 20th century, it was at first both ridiculed and feared. Was it really appropriate to compare important issues of global politics—and the fear of mutual destruction between the two blocks was the biggest such issue—to a game, seemingly as though nothing hinged on it? Was it really possible to equate dramatically different situations—nuclear negotiations, the strategy of genes towards reproduction, and everything in between—as though they were all ultimately similar? And was it possible to reduce the inherent complexities of real-life situations to simple two-by-two tables with expected outcomes? In short, was game theory merely fancy mathematics, developed by brilliant but also eccentric mathematicians like Von Neumann and Nash? Or could it actually help not only to explain the world but even to provide strategies on how to deal with it?

The latter perspective has prevailed. While lawyers still use game only occasionally, it has become a standard tool not only in economics but also in international relations. And Brexit has, from the start, provided game theorists with so many examples that it might well be possible to teach a whole introduction to game theory drawing only on Brexit examples. Take Art. 50 and see how the sequence of moves provided therein makes it, arguably, irrational for almost any country to ever declare its exit. (That was so especially as long as it was expected that the Art. 50 declaration could not be withdrawn). The odd situation earlier this year, when the House of Commons voted down every thinkable scenario of how to deal with Brexit, provided a good example for Arrow's theorem: the thesis that, where more than two outcomes are available, it may well be that none of them stably dominates all the others. And, of course, the EU strategy itself of remaining hard in its negotiations with the UK, can be explained as an application of Selten's chain store paradox, for which he won a Nobel prize In the paradox, it would be rational for a monopolist to buy out an intruder into the market, rather than enter into costly competition. But if this is true, then it is also rational for subsequent potential competitors, one after the other, to enter the market and look for a buyout – and ultimately the monopolist may be bankrupted by its strategy. The only way to avoid such a chain of events is, then,

to do the seemingly irrational and not cave to the first intruder—very much what the EU did with its hard negotiation tactics vis-a-vis the UK.

What then of Towfigh's explanation of Boris Johnson's strategy as playing a game of chicken? It seems quite plausible at first sight (and has indeed been suggested before). Johnson himself does not appear like a game theory expert (though one sometimes thinks it is all a game to him): he must have spent more of his education learning difficult words and memorizing the classics. His main advisor, Dominic Cummings, by contrast has outed himself as a devotee of game theory. One can quite safely infer that some of the thinking that Towfigh describes went into the strategizing. Indeed, Johnson himself has praised the madman theory, and his frequent hints that the best way to get a deal might be to insist on exiting without one, seems informed by such game theoretical thinking.

But is it a plausible strategy? I think not. It seems too simple to present the current situation as a two-party game, with the UK (or Boris Johnson) on one side and the EU on the other. In reality, Johnson faces two opposite players—one being the EU, the other the hard Brexit opponents and the Supreme Court at home. Both these other players have interests that are in part aligned—they prefer a deal over no deal—and in part opposed—the EU wants a deal that is good for itself, the UK parties want a deal that is good for the UK. In that way, the other UK parties' interests should be aligned with Johnson's, but that is of little help to him. His conundrum is that playing the madman all around undermines his own position at home: if other UK players think he risks no deal, they will undermine him. What he must try—and no doubt has tried, behind closed doors—is to run a double strategy: to seem crazy to the EU but rational to the other UK parties. The EU must expect that he will not blink, so it presents a better deal in the last minute. The other UK parties, by contrast, must expect that Johnson will deliver through his madman theory (i.e. be rational) and therefore not interfere. Alas, Theresa May already failed with such a dual strategy, and it seems not unlikely that Johnson will, too. The problem is, of course, that, as game theory reminds us, all of these thoughts are available to each player: each player's rational move is made with a view to what would be rational for all other players.

A game theoretical perspective is not useless. Through its abstraction, game theory can serve as a useful heuristic tool that can help understand strategic options better. Its potential for predictions of outcomes, however, is much more limited. When Towfigh argues that Johnson will be deemed rational if his gamble is successful, he is of course right. But that is tautological. We do not need game theory to demonstrate that fact. A theory that can predict both the success and the failure of a certain conduct has limited predictive power; it is hardly a theory.

Insofar as game theory demonstrates paradoxes, it is relatively harmless.. It becomes more problematic when certain outcomes are deemed unavoidable. In the 1960s game theoreticians argued that the arms race between USA and Soviet Union presented a prisoner's dilemma that made mutual destruction unavoidable, and therefore advised the US should strike first. We are lucky not only that they were wrong in their prediction of unavoidability, but also that their arguments in favor of a first strike ultimately did not convince the US government. This event should

have taught us the limits of game theory, but for some, it did not. Today, some game theorists use similar arguments to demonstrate that a no-deal outcome in the Brexit negotiations is unavoidable. They fall into the same logical trap, but their analysis, again, could well become a self-fulfilling prophecy.

Selten won the Nobel prize for his contribution to game theory. However, his own position—the one the Nobel committee ignored—was one that he called methodological dualism: besides normative game theory, he felt it was necessary to account, descriptively, for the bounded rationality of real-life actors. Game theory, I would suggest, can help us model negotiations and possible negotiation strategies in Brexit, but only attention to the actual politics, economics, and psychology will help resolve the issue. If the somewhat simplistic chicken strategy that Johnson and Cummings fabricated fails for them, this may demonstrate the real-world limits of game theory, too. It helps to model Brexit as a game, but it also helps to remember that it is not.
